Assignment -3

Python Programming

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| Assignment Date | 21 October 2022 |
| Student Name | ABIRAMI N V |
| Student Roll Number | 737819ECR046 |
| Maximum Marks | 2 Marks |

# Question-1:

Write a python program to blink LED using Raspberry pi.

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| **Solution:** |
| import RPi.GPIO as GPIO |
| import time |
| import signal |
| import sys |
| GPIO.setmode(GPIO.BCM) |
| GPIO.setup(9, GPIO.OUT) |
| GPIO.setup(10, GPIO.OUT) |
| GPIO.setup(11, GPIO.OUT) |
| def allLightsOff(signal, frame): |
| GPIO.output(9, False) |
| GPIO.output(10, False) |
| GPIO.output(11, False) |
| GPIO.cleanup() |
| sys.exit(0) |
| signal.signal(signal.SIGINT, allLightsOff) |
| while True: |
| # Red |
| GPIO.output(9, True) |
| time.sleep(3) |
| # Red and amber |
| GPIO.output(10, True) |
| time.sleep(1) |
| # Green |
| GPIO.output(9, False) |
| GPIO.output(10, False) |
| GPIO.output(11, True) |
| time.sleep(5) |
| # Amber |
| GPIO.output(11, False) |

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| GPIO.output(10, True) |
| time.sleep(2) |
| # Amber off (red comes on at top of loop) |
| GPIO.output(10, False) |

# Question-2:

Python program to implement traffic light system in Raspberry pi.

# Solution:

from gpiozero import Button, TrafficLights, Buzzer from time import sleep

buzzer = Buzzer(15) button = Button(21)

lights = TrafficLights(25, 8, 7)

while True:

button.wait\_for\_press() buzzer.on() light.green.on() sleep(1) lights.amber.on() sleep(1)

lights.red.on() sleep(1)

. lights.off()

buzzer.off()